REPORT

ON THE

Government Horticultural Gardens

LUCKNOW

FOR THE

YEAR ENDING 31ST MARCH 1908

ALLAHABAD:

PRINTED BY F. LUKER, SUPERINTENDENT, GOVERNMENT PRESS, UNITED PROVINCES.

1908.

Price, three annas = (3*d*.).

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Hemendra Kothari

on 24 February, 2020

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No. $\frac{1295}{VA.-959}$ of 1908.

From

THE DIRECTOR OF LAND RECORDS AND AGRICULTURE,
UNITED PROVINCES,

To

THE SECRETARY TO GOVERNMENT,
UNITED PROVINCES, INDUSTRIES DEPARTMENT,
NAINI TA

Dated Lucknow, the 6th June 1908.

SIR,

I HAVE the honour to submit for the orders of Government the report on the Government horticultural gardens at Lucknow for the year ending 31st March 1908.

Acknowledgments are due to the donors mentioned in appendix B of the report.

I have the honour to be,
SIR,
Your most obedient servant,
W. H. MORELAND,
Director.

Maximum limit of report—seven pages.]

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REPORT on the GOVERNMENT HORTICULTURAL GARDENS, LUCKNOW, for the year ending 31st March 1908.

I.—INTRODUCTORY.

1. *Charge of the gardens.*—I have been in charge of the gardens for the whole year. Visits were made by me to the Circuit House, Bareilly and Government House gardens, Naini Tal.

2. *Important Administrative events.*—Mr. W. Head was placed on deputation as probationer gardener to the gardens on the 28th April 1907 and remained till the end of the year under report.

On the 17th May 1907 Babu Kanhya Lall was appointed assistant to the Superintendent, he having been deputed for this purpose from the Agricultural College, Cawnpore. Babu Kanhya Lal was transferred on the 11th January 1908.

3. *State of the gardens.*—I am glad to report that steady progress was made during the year in the matter of improvements to the garden, special attention being given to re-planting land that had been cleared and to completing the work taken in hand during the previous year.

The flower garden was enlarged by rather more than two acres to allow of the cultivation of cold season flowers for seed.

The demand for acclimatized flower seeds has for some years been greater than the gardens have been able to meet: hence the necessity for extending the garden. It is proposed to add still further to the area under flowers owing to the large quantities required for sale for decorative purpose during the cold season.

The rose tree nursery was thoroughly overhauled during the year and many new varieties were added to the collection. A new rose garden for cut flowers was made and planted with about a thousand varieties of roses, specially selected for their free-flowering qualities.

It is hoped that this new garden will go far towards enabling us to meet the heavy demand for cut roses at all seasons of the year.

The large strip of land on the north-east side of the gardens referred to in last year's report was taken in hand and laid out as an exotic garden. Over three hundred rare trees and shrubs, which have been introduced at various times from all parts of the world were planted out during the last rains and cold season.

The majority of the plants have taken kindly to their new quarters and promise in the course of time to form a most valuable and interesting collection.

It is proposed to make the collection still more valuable by carrying out experiments with a number of drought resisting plants, conditions for which exist on the high mounds adjoining the exotic garden.

A new road was laid down round the bamboo garden and carried on so as to enable visitors to view the new extension to the flower garden.

Repairs to existing roads were done during the rains.

A plot of land near the plant nursery was taken up as a lily garden.

In this plot we now have collected all the bulbous plants that succeed in the open ground. These plants were previously scattered all over the garden and were not readily found when required, besides standing the risk of being neglected for want of proper attention. Many bulbous plants grow well and flower in the climate of Lucknow, and it is hoped that by carefully cultivating and showing them off to the best advantage that amateur gardeners will take up their culture with greater zeal than they have hitherto done.

The show-plant house erected in the previous year was kept gay during the rains and cold weather, the chrysanthemums being much admired.

4. *Character of the season.*—The rainfall of the year was most unsatisfactory.

The total registered was only 16·91 inches and this so badly distributed that plant-life scarcely benefited by it, in fact much harm was done owing to shrubs and tender plants starting into vigorous growth after a heavy shower and then withering when a long break occurred.

These checks not only did injury to established plants but prevented their propagation and caused the gardens to fall back on artificial irrigation, which scarcely more than enabled us to keep the plants alive. The propagation of many plants was impossible and our stock was very soon exhausted when the season for planting came round.

No serious damage was done by frost, due probably to the fact that most plants, especially fruit trees, made little new growth during the growing season and therefore the wood being mature was able the better to withstand the sudden changes of temperature.

II.—ACCLIMATIZATION AND OTHER EXPERIMENTAL WORK.

5. *Fruit and food producing trees and plants :—Fruit crops.*—Mangoes bore a light crop, while figs, grapes, peaches, loquats, plums and oranges yielded well.

See Appendix C. *Fruit nurseries.*—At the commencement of the rainy season there was a good demand for fruit trees, but owing to the failure of the rains this demand ceased almost entirely and resulted in a large stock of plants being left on our hands.

This was to be regretted in many ways for I had made special efforts in the previous year to increase the stock of fruit trees so as to meet expected demands and had been successful in this direction. Many indents received from out stations in these provinces were cancelled owing to the drought.

The fall in this year's revenue is largely accounted for by the small sales effected under the head fruit trees. The stock of young trees at our disposal in the nurseries is much larger than we have ever had before and should the coming rains be good the gardens ought to show record sales, grafted mangoes are especially healthy and promising.

Strawberries.—Owing to the increased demand for this fruit it is proposed to set apart a plot of land for their cultivation during next cold season. Arrangements are being made to procure some of the best varieties and to propagate them for distribution as well as for the sale of their fruit.

The adverse weather conditions of the past two years has caused the stock of strawberry plants around Lucknow to dwindle down considerably and it is necessary to take immediate steps to repair the loss.

Vegetable garden.—Experiments were carried out with a number of vegetables to test their seed producing qualities.

The results of the previous year were most encouraging and the seed collected this year should show even better results. No complaints were received regarding the acclimatized seed, their germinating powers being all that could be desired.

Onions, beans, lettuce, cauliflower, peas and cabbage showed the best results.

6. . *Other trees and plants of economic value—Dates.*—These trees produced a remarkably full crop of fruit, and the season was such that they had every chance of ripening. The fruit was perfectly developed but they matured so slowly that the outer portion ripened while the centre was yet hard, and although efforts were made to protect some of the fruits hornets attacked them and spoiled what promised to be a most interesting result. Some of the fruits were gathered from the trees and ripened artificially and were decidedly pleasant to the taste. It appears that the cultivation of the date palm in these provinces for its fruit, is not very encouraging judging from the results during the past year when the climatic conditions were entirely in their favour.

Agave sisalana.—The demand for these fibre-producing plants increases yearly. Over 25,000 were distributed, this number showing a marked increase over the previous year. A new nursery has been started for the raising of a young stock to take the place of the parent plants which will in the course of a few years cease to pole and produce bulbils.

Pears.—The experiments carried out in the previous year to encourage the trees to fruit better were continued during the year under report and the results were interesting :—

Root pruning proved the best means of forcing the trees into bearing, while ringing the bark was not the success that was anticipated. The experiments are being continued, and in my next report I hope to be able to give details of the best methods of pruning the trees with the results obtained.

Pine apple.—A plot of ground has been taken up for the growth of this fruit.

For some years past little attention has been given to the plants and they had in consequence gone out of bearing.

New suckers of good varieties have been planted and are in a healthy condition.

7. *Ornamental trees and shrubs.*—During the year under report 16,088 ornamental trees and shrubs were distributed from the gardens. See appendix C.

This number is less than the previous year the reason being that the weather prohibited the planting out of tender shrubs, except under the most favourable conditions.

The sale of bulbs and tuberous plants shows a distinct improvement, the number disposed of being 26,188 against 20,500 in the previous year. The total issue of plants including those distributed free and in exchange numbered 62,634 against 50,946 of the preceding year.

The stock of plants in the nursery is increasing rapidly and we now have almost double the numbers we had two or three years ago.

III.—FINANCIAL RESULTS.

8. *Receipts.*—The estimated receipts of the garden were Rs. 23,500 and the actual receipts Rs. 15,732. Plants, seeds and cut flowers were issued free and at reduced rates to the value of Rs. 5,480. If this sum be added to that of the actual receipts the total revenue for the year is Rs. 21,212 or a decrease of Rs. 2,915 over the total revenue of the previous year. See appendix A.

This decrease is accounted for by the smaller sales of fruit trees due to the drought, and to the fact that scarcely any revenue was received from the sales of timber.

9. *Expenditure.*—This was estimated at Rs. 31,300 (including Rs. 4,000 for the purchase of the Veterinary Hospital) while the actual expenditure was Rs. 31,499. The excess expenditure is accounted for by the extra grant sanctioned on account of dearness in fodder, etc., *vide* Government Order No. 1429/X—BX-1-12, dated the 17th March 1908. See appendix A.

10. *Surplus or deficit.*—The total receipts of the year as compared with the expenditure shows a defict of Rs. 10,287. If the book credits are excluded and only the actual cash receipts paid into the Treasury shown the deficit is Rs. 15,767.

IV.—MISCELLANEOUS.

11. *Training of gardeners.*—There were forty-one applications for trained gardeners during the year, of which less than a dozen were complied with. There were three apprentices under training as gardeners.

Subscribers.—There are nine subscribers on the books, this number being the same as last year.

12. *Arboriculture.*—The stock of plants in the nursery at the commencement of the planting season was more than sufficient to meet all indents received. Considerably over 5,000 young trees were supplied to the public and this output might have been more than doubled with ease. The drought effected the planting of trees in these provinces to a large extent. During the past year the new arboricultural nursery close to the Horticultural gardens was started to replace the old one vacated owing to the land being required by Government for building purposes. The present site of the nursery is more convenient than the old one, though much smaller, yet there is no doubt that it will be possible to propagate within it all the young trees that are likely to be required for some years to come. During the planting season a large number of young trees were removed from the old nursery to the new site and these will be ready for distribution during the coming rains.

The young stock of plants available at present number over 10,000 and include all the best subjects for roadside planting.

Plants may be supplied either from the ground or in pots, the latter being recommended where they have to be transported to long distances from the nursery.

The allotment for maintenance was Rs. 1,280, out of which Rs. 1,153 were spent. The revenue amounted to Rs. 132.

An arboriculture class was held during the year under report, nine men presenting themselves for training.

They received a thorough grounding in the methods of raising and growing roadside trees and were also instructed in other points concerning the welfare of the trees, including transplanting and pruning. The class covered a period of five months. At the close of the term the men were examined by me and granted certificates.

The examination proved that the majority of the men had taken a keen interest in learning all that was possible while they were in training and I was particularly impressed with the manner in which they had grasped the essential points in arboriculture and the general intelligence displayed.

13. *Flower show.*—A chrysanthemum show was held in the Wingfield Park on the 30th November 1907. The show was well patronized and the exhibits were well ahead of those staged at the previous year's show. The cultivation of the chrysanthemum has made rapid strides in Lucknow during the past two or three years, the shows having done much to encourage private growers to take up the growth of these lovely winter flowers in earnest.

The annual flower and vegetable show was held in the Wingfield Park on the 29th February 1908. The exhibits in the flower sections were scarcely as good as in the previous year, but on the other hand the vegetables were well up to the usual standard.

The popularity of the annual show was proved by the excellent attendance of the public and the interest taken in the exhibits. The receipts of the chrysanthemum show were Rs. 173 and the expenditure Rs. 404. The receipts of the annual flower show were Rs. 640 and the expenditure Rs. 911. The balance to the credit of the flower show at the Bank of Bengal stands at Rs. 84.

14. *Conclusion.*—I am glad to record that I received valuable help during the past year from Mr. Head who was my assistant.

The Office staff worked generously and well, while the garden staff performed their duties under most trying conditions to my satisfaction.

H. J. DAVIES,

Supdt., Govt. Horticultural Gardens,

The 16th May 1908. *Lucknow.*

APPENDIX A.—*(See report, paragraphs 8 and 9.)*

Statement showing the receipts and the expenditure of the Government Horticultural gardens, Lucknow, for the year ending 31st March 1908.

Heads.	Actuals of 1906-07.	Budget for 1907-08.	Actuals of 1907-08.
1	2	3	4
	Rs.	Rs.	Rs.
Receipts	20,668	23,500	15,732
Total Receipts ...	20,668	23,500	15,732
CHARGES.			
Superintendent	2,238	4,313	4,233
Establishment	5,859	8,438	7,231
Allowances	77	300	459
SUPPLIES AND SERVICES.			
Purchase of seeds and plants	5,036	4,500	5,511
„ of live stock	260	600	517
Feed of live stock	2,753	1,800	2,325
Purchase of manure	131	500	...
Rent of land	24	24	24
Maintenance of premises	8,485	1,000	520
Cooly labour	1,969	2,500	2,502
Contingencies	2,935	7,325	8,177
Total ...	29,767	31,300	31,499

APPENDIX B.

List of contributors to the garden during the year ending 31st March 1908.

Names of contributors.	Name and description of articles contributed.
The Curator, Botanical Garden, Bassein, Bombay.	1 packet Grewia Ugandencis. 1 „ Garcinia Buchanani.
The Curator, Botanical Garden, Peradeninya, Ceylon.	1 „ Madagascar Papaya.
The Superintendent, Royal Botanic Garden, Calcutta.	1 „ Bockhousia citriodora.
The Curator, Royal Botanic Garden, Ootacamund.	1 „ Papaya. 2 packets „ 18 „ Ornamental trees and shrubs.
The Superintendent, Government Gardens, Allahabad.	1 packet Clitoria ternata. 1 „ Papaya. 1 plant Casuarina. 30 plants Violets.
The Superintendent, Empress Garden, Poona.	2 packets Papaya. 1 packet Delphinium Sp.
The Superintendent, Government Garden, Cawnpore.	1 „ Papaya. 1 Collection of Crotons.
The Superintendent, Public Garden, Benares.	1 packet Papaya.
The Superintendent, Victoria Garden, Bombay.	1 „ „ 2 oz Victoria regia.
The Superintendent, Government Garden, Mysore.	1 packet Papaya.
The Superintendent, State Garden, Baroda.	1 „ „
The Royal Botanic Gardens, Kew ...	1 „ Spineless Lime.
The Reformatory School, Jubbulpur	1 „ Papaya.
The Commissioner of Agriculture, Honolulu, Hawaii.	27 packets Ornamental trees and shrubs. 40 Palms of sorts.
District Jail, Lucknow ...	1 packet Lime (Kagzi).
Mr. Hurmasji, Lucknow ...	1 „ Tree cotton.
A. H. Pirie, Esq., Lucknow ...	1 „ Holly hock. 1 „ Smilax.
J. Muirhead, Esq., Lucknow	1 „ Irish Shamrock.
F. G. D. Lincoln, Esq., Lucknw	1 „ Passiflora edulis. 1 plant Schinus Mollis.
J. C. Harvey, Esq., Mexico	1 packet Lassiflora Sp. 1 „ Ficus Sp.
A. M. Gasper, Esq., Moradabad ...	1 „ Eucalyptus amygdalinus.
Henry. H. Travers, Esq., Wellington, New Zealand	15 packets Ornmental trees and shrubs.
R. A. Fairlie, Esq., Allahabad ...	60 plants Cineraria.
The Superintendent, Government Gardens, Fyzabad.	25 „ Papaya.

APPENDIX C.—*(See report, paragraphs 5 and 7.)*

Showing the amount of plants and seeds distributed from the gardens during the year ending 31st March 1908.

Names of departments, &c., supplied.	Plants.									Seeds.				Total.		
	Fruits.			Ornamental and timber trees.		Ornamental plants and shrubs.		Bulbs and tubers.	Total.	Vegetables.	Flowers.	Fruits.	Trees and shrubs.	Miscellaneous.	Number of packets.	Weight.
	Plants.	Cuttings.	Strawberries.	Plants.	Cuttings.	Plants.	Cuttings.									
																lb. oz.
General public	2,675	...	3,250	10,593	...	13,629	1,116	25,518	57,078	4,458	4,585	1	215	74	11,336	1,791 4
Government and public gardens in India.	400	...	...	1,319	...	1,702	...	670	4,091	250	519	...	...	14	783	211 0
Government and public gardens in other countries.	1,005	...	...	...	...	...	...	...	...	17	...	3	...	...	20	11 12
Jails.		...	...	...	...	460	...	...	1,465	75	140	...	10	...	225	44 0
Total ...	4,080	...	3,250	11,912	...	16,088	1,116	26,188	62,634	4,800	5,244	4	225	88	12,364	2,058 0

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on 24 February, 2020